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U.S. Naval Postgraduate School Faculty Bulletin, 1966-1978

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1970-02-24

## Naval Postgraduate School Faculty Bulletin, 1970-02-24

Monterey, California, Naval Postgraduate School

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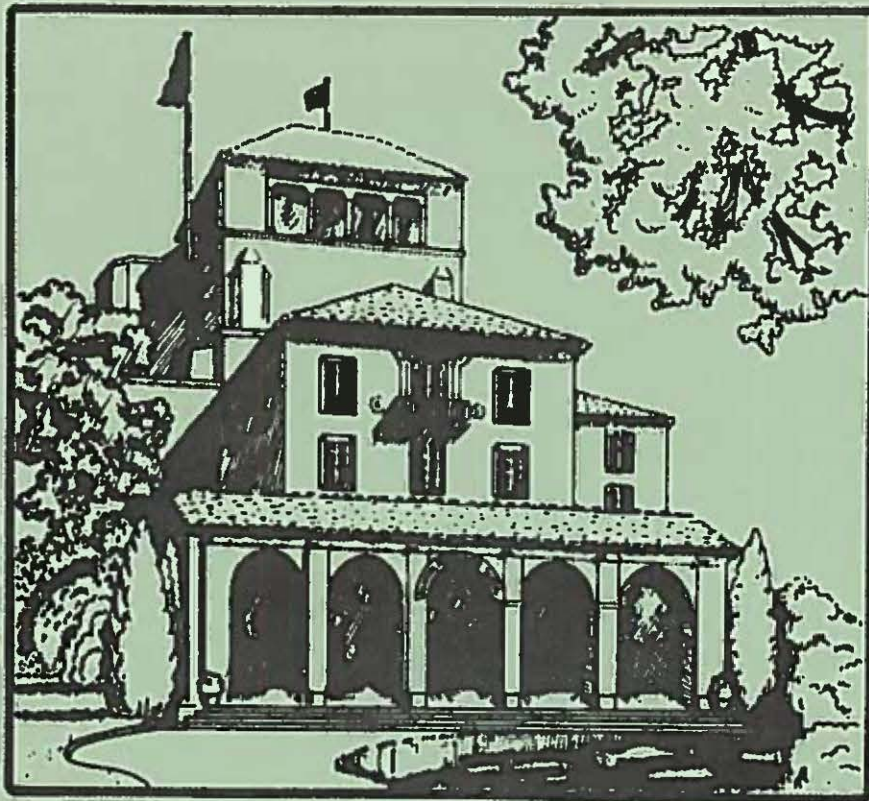
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## Naval Postgraduate School

# FACULTY BULLETIN

ISSUE NO. 4-70

24 FEBRUARY 1970

### GROUP PROJECT COMMITTEE APPOINTED

Associate Professors Donald Kirk (Electrical Engineering), L. V. Schmidt (Aeronautics) and W. Max Woods (Operations Analysis) have been appointed as the Group Project Committee for the Interdisciplinary Group Project Experiment. The appointments are effective immediately for the period ending 30 June 1971.

The Interdisciplinary Group Project has the objective of presenting the student with a complex problem which has to be solved by systems-oriented methods. It offers an alternative to the thesis research project, which involves an individual student working on a problem with narrower scope using methods which are more science than systems-oriented. Such a group project provides the student with an opportunity to participate in an alternate type of creative effort, to broaden his understanding of real-life problems, and to become aware of the need for communicating with other disciplines.



## WASC REPORT RECEIVED

The very commendatory report of the Accreditation Committee of the Western Association of Schools and Colleges on its December 1969 visit to the Naval Postgraduate School has been received. Copies are being made available to each Academic Department to provide for the opportunity of perusal of the report by any interested Faculty. Dr. Kay J. Anderson of the WASC has requested that the report be treated as information privileged within the School.

## ACADEMIC ASSOCIATE APPOINTMENT

Assistant Professor Richard S. Elster of the Business Administration and Economics Department has been appointed Academic Associate for the Management Curricula effective 1 February 1970. He succeeds Associate Professor H. A. Hoverland. Professor Elster's appointment is effective through 30 June 1971.

## NEW NPGS FACULTY

Lieutenant Commander Philip G. Hartman, USN received his B.S. degree in Geography from the University of Wisconsin in 1952. Following commissioning as an Ensign in 1952, LCDR Hartman was assigned various shipboard duties aboard destroyers, cruisers, and mincrafft. Prior to reporting to the Naval Postgraduate School he was the Combat Information Center Officer of the nuclear powered guided missile cruiser, USS LONG BEACH (CD(N)-9). LCDR Hartman received his Master of Science degree in December 1969 from NPS, after which he was assigned to the faculty of the Navy Management Systems Center.

Visiting Associate Professor Stephen A. Kushnick received his B.S. degree in Psychology from the University of Pittsburgh in 1958. Continuing his graduate work at Pittsburgh, he received his M.S. degree in physiological psychology in 1961 and his Ph.D. in experimental psychology in 1963. His research was in the area of the motivational effects of aversive stimuli. Dr. Kushnick has been on the faculty of the University of Pittsburgh, Allegheny College, and the University of Windsor where his teaching and research has been in the area of learning and motivation. He is presently on leave from the Litton Scientific Support Laboratory, where he is employed as a Senior Engineering Specialist in the area of human factors. Dr. Kushnick is a member of the American Psychological Association, Eastern and Midwestern Psychological Associations, Monterey Bay Human Factors Society, Sigma Xi, Psi Chi, and American Men of Science. He holds a visiting faculty appointment in the Business Administration & Economics Department.

Associate Professor Hans J. Zweig received his B.A. degree in mathematics from the University of Rochester in 1949. He then majored in mathematics and philosophy at Brown University and received his M.A. in 1951. After graduation he was employed as a Research Technologist at Eastman Kodak Company until 1960. During this time, he attended Columbia University as a Fellow and majored in mathematical statistics. He received his

Ph.D. degree in Statistics from Stanford University in 1963. For the next five years he worked for IBM in San Jose as Manager of the Optical Storage Technology Laboratory where he investigated and designed large memory systems based on photo-optics, laser and electron beam technology. In 1968 he became Vice-President of Credit Data Corporation in San Francisco, where he worked on Research and Development design of total information system for instant nationwide credit authorization. Dr. Zweig joined the faculty of the Operations Analysis Department in December. He is a Fellow of the Optical Society of America, a member of Sigma Xi, New York Academy of Science, the Institute of Mathematical Statistics, and the editorial board of Photographic Science and Engineering.

#### FACULTY PUBLICATIONS

Fremgen, J. M. and Cowie, J. B.

Computers versus mathematics: round 2. The Accounting Review, Vol. 45, January 1970, p. 27-37.

Abstract: This paper is a rejoinder to an earlier article that advocated greater attention to mathematics than to computers in accounting curricula. Use is made of the earlier author's examples to challenge his thesis. The difference between the computer as a general purpose data processor and as a computational tool is stressed. Some advantages are listed for the study of both mathematics and computers in any program, but they are discussed within the context of an accounting curriculum.

Hart, D. A. and Oleson, N. L.

Experimental Study of Tonks-Dattner Resonance in Rare Gas Plasmas. Journal of Applied Physics, Vol. 40, 1969, p. 4541-4553.

Abstract: Tonks-Dattner Resonances were studied in discharges of neon, argon, and xenon in the milliTorrr pressure region where self-excited moving striations are also present. Comparison is made with the theory of Nickel, Parker, and Gould with no adjustable parameters. The agreement is satisfactory for argon and xenon but the experimental resonance frequency peaks for neon lie appreciably above the predictions of the theory.

Sarpkaya, Turgut, Pavlin, Cyrille, and Phasook, Sompong

A Theoretical and Experimental Investigation of a Confined Vortex Oscillator. Transactions of ASME, Journal of Basic Engineering, Vol. 91, Series D, No. 4, December 1969, pp. 750-754.

Abstract: A theoretical and experimental study was carried out in both air and water of the forced and temporally periodic motion that occurs in a double input vortex chamber when two jets of nearly equal momentum impinge along a common tangent. The motion is described in terms of an oscillator that derives its energy from the hydrodynamic instability of the resulting swirling flow and whose frequency is determined by the inertance and capacitance of the system. The experimental data, expressed in terms of the relevant dynamic parameters, are found to be in fair agreement with those predicted theoretically.



Williamson, T. J. and Albrecht, R. W.

Calculations of neutron time-energy distributions in heavy moderators. Transactions of American Nuclear Society, Vol. 12, 1969, p. 641-642.

Abstract: A computer code based on a discrete Markov model of the neutron slowing down process has been employed to predict design and operation parameters for lead slowing down spectrometers. Such calculations have not been feasible with previously available techniques.

#### PRINCIPAL PROFESSIONAL ACTIVITIES

Professor J. R. Borsting, Chairman of the Operations Analysis Department participated in an ONR on-site review of the THEMIS Project at Texas A&M University on 19 January. On 21 and 22 January, Professor Borsting attended the Executive Council meeting of MORS in Washington, D. C.

Assistant Professor Warren W. Denner of the Department of Oceanography presented a paper entitled "The Expendable Bathythermograph - An Oceanographer's Evaluation" at the Pacific Northwest Oceanographers Meeting held in Portland from 19-21 February.

The Executive Director of the Navy Management Systems Center, Professor H. Paul Ecker's summary of conclusions of the panel on Decision Theory presented at the Academy of Management's 29th Annual Meeting has been printed in the Academy of Management Proceedings, August 24-27 1969.

The January 1970 issue of The Accounting Review contains a book review of Greenwood's "Decision Theory and Information" by Professor James M. Fremgen of the Business Administration & Economics Department.

Associate Professor Donald M. Layton of the Aeronautics Department spoke at a luncheon meeting of the State Convention of the California Agricultural Aircraft Association on Thursday, 26 January. His subject was "The Supersonic Transport".

Professor Dale F. Leipper, Chairman of the Oceanography Department has accepted an invitation from the National Science Foundation to serve as a member of a panel to evaluate applications for the Graduate Fellowship Program. Dr. Leipper attended the meetings held in Washington, D. C. from 17-19 February for this purpose.

Assistant Professor Gary K. Poock of the Operations Analysis Department presented the following papers at the Conference of Northern California Chapter of Institute of Management Science held in San Francisco on 18 February. "The effect of direction on Information Capacity of Discrete Motor Responsis in Humans" and "Advantages of an Integrated Brake-Accelerator Pedal Design".

Congratulations are in order to Assistant Professor Alan M. Shorb of the Mathematics Department who received his Ph.D. in mathematics from the University of Minnesota on 20 December. His dissertation was "Contributions to Boolean-valued Model Theory".

The January 1970 issue of Mathematical Reviews contains a review by Dr. R. F. Rinehart of "A characterization of intrinsic functions on  $D_n$ " by R. E. Carlson and C. G. Cullen.

Associate Professor M. J. Steckler of the Business Administration & Economics Department presented a paper entitled "Analysis of Decision-Making Systems" at the meeting for ONR Contractors & Navy Scientists held in San Diego from 10-13 February.

#### IN MEMORIAM

Word has been received that Mrs. C. C. Bramble, wife of Professor Emeritus C. C. Bramble, passed away on 15 February 1970 in Annapolis, Md. For Dr. Bramble's old friends on the NPS Faculty who may wish to extend their sympathies, his address is 145 Monticello Avenue, Annapolis, Md.

#### NOTICES

##### SUMMER FACULTY FELLOWSHIPS AT U.C.L.A.

Applications are now being accepted for Summer Faculty Fellowships, sponsored by NASA and ASEE. Eligible are U. S. citizens who are faculty or research staff members, preferably with two years of teaching experience. The categories for the Fellowships are Engineering Systems Design and Aeronautics and Space Research. Further information is available from the U.C.L.A. Engineering Information Office.

#### DISTINGUISHED VISITORS

Rear Admiral L. E. S. H. LeBailly, C. B., Chief of Staff Committee, British Ministry of Defense visited the Navy Management Systems Center from 15-17 February to discuss curriculum, methods of instruction and the aims of the programs.

The Honorable James D. Hittle, Assistant Secretary of the Navy for Manpower and Reserve Affairs visited the Naval Postgraduate School on 19 and 20 February on an orientation tour. Included in his visit was an address to the students, staff, and faculty in King Hall on the 19th.

Approximately 40 participants will attend the 10th Flag/General Defense Management Conference to be conducted by the Navy Management Systems Center 22 - 27 February. Among the distinguished participants are: Admiral Sir Nigel S. Henderson, RN, C.B., O.B.E. NATO Military Committee Chairman, LGEN John S. Hardy, USAF, Commandant, Industrial College of the Armed Forces, LGEN Earl C. Hedlund, USAF, Director, Defense Supply Agency.

TRAVEL - 24 FEBRUARY - 9 MARCH

Supported by BuPers Funds

W. F. Koehler	3/1 - 3/7	Chicago & Palo Alto	Attend Nat'l. Conf. on Higher Ed. & Western College Assoc. Annual Mtg.
J. W. Creighton	2/23 - 2/29	Wash. D. C.	Faculty Recruiting

Supported by Other Funds

T. Sarpkaya	3/7 - 3/22	Brussels & London	Attend Conf. on Fluid Power & 4th Cranfield Fluidics
B. Castro	2/15 - 2/25	Santa Cruz, San Jose, Stanford, Berkeley	Discussions regarding video taped dialogues